ANALYSIS OF INTERNATIONAL TECHNOLOGY TRANSFER EXPERIENCES IN SHIP BUILDING: THE CASE OF COLOMBO DOCKYARD PLC, SRI LANAKA

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SUMMARY

This paper attempts to analyze the processes and effectiveness of international technology transfer in ship building to CDPLC. Concept of international technology transfer and supporting factors and how transfer was happening for ship building technologies in CDPLC has been reviewed comprehensively.

Among several types of technologies involved in ship building , an attempt has been made to identify the suitable technologies for ship building especially in case of CDPLC. Problems and barriers faced by CDPLC in acquiring necessary technologies and effectiveness of technology transfer have been investigated and analysed.

A questionnaire was developed using combined version of Ramanathan's seven-factor model, technology components and technology capability model.

A questionnaire was developed to establish the status of technology components, technological capabilities, technology transfer mechanisms and various elements of seven-factor model of transferee and transferor. Attempts have been made to evaluate the various elements mentioned in combined model with regard to the effectiveness of technology transfer. Responses were collected from 40 selected respondents (representing employees of CDPLC, Ship Owners' representatives and surveyors of classification societies.). Similar method has been adopted informally to collect data about leading Korean Ship Building yards for comparative purposes.

Recommendations and guidelines are developed to improve the existing technology transfer process and to remove the existing barriers.

The findings revealed that :

1) Kind of technologies to be transferred are as under:
   - 3D CAD system for design engineering.
   - Application technology of welding robot for welding in confined spaces.
   - Latest techniques of storage for assembly blocks.
   - Latest techniques for handling bigger size of blocks.

2) Leading Korean yards are quite ahead with CDPLC in terms of technology components and technological capability.

3) Most suitable transfer mechanisms identified for CDPLC in the study are technical collaboration, licensing, purchase of machineries and equipment, sub contracting and expert services, but again it differs based on the technology, size of the new ship building projects etc.

4) Korean Ship Building yards' environment is more suitable towards technology transfer compared to CDPLC.

5) Greater environment as transferee (CDPLC) is better compared to greater environment for leading Korean yards with respect to their transferor.

6) Major barriers identified for CDPLC were technical barriers such as lack of peoples with experience in shipbuilding and very poor internal R & D.

Based on the findings, it is recommended that Colombo Dockyard PLC should focus on following strategies for enhancing effectiveness of technology transfer in future technology transfer initiatives:

1) Adopting process approach towards technology transfer.

2) Improvement of technology components and generating / innovating capability to advance level.

3) Improvement of managerial capability by developing the internal diagnostic and planning capabilities.

4) Improving ability of searching technology and their supplier.

5) Removal of technical barriers.

KEY WORDS: International Technology Transfer, Ship Building Industry, Colombo Dockyard PLC and Sri Lanka.